

WEST Search History

[Hide Items](#) [Restore](#) [Clear](#) [Cancel](#)

DATE: Tuesday, November 29, 2005

<u>Hide?</u>	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
<i>DB=PGPB,USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L3	L2 and free carotenoid	34
<input type="checkbox"/>	L2	L1 and (emulsifier or bile or gum Arabic or salt of free fatty acid or lecithin or deoxycholate)	2446
<input type="checkbox"/>	L1	carotenoid	7387

END OF SEARCH HISTORY



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 1037722

TO: Ralph J Gitomer
Location: rem-3d65/3c18
Art Unit: 1655
Tuesday, November 29, 2005

Case Serial Number: 10/661606

From: Edward Hart
Location: Biotech-Chem Library
REM-1A55
Phone: 571-272-2512

edward.hart@uspto.gov

Search Notes

Examiner Gitomer,

Here are the results of the search you requested.

Please feel free to contact me if you have any questions.

Edward Hart

=> file hcplus
FILE 'HCPLUS' ENTERED AT 11:00:00 ON 29 NOV 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 29 Nov 2005 VOL 143 ISS 23
FILE LAST UPDATED: 28 Nov 2005 (20051128/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> d stat que
L1          2 SEA FILE=HCPLUS ABB=ON PLU=ON (US2003-661606# OR WO2002-0039
               8# OR                               US2001-915527# OR US2001-292953#)/AP, PRN
               OR (US2004166199                         OR US2002177181)/PN
L2          TRANSFER PLU=ON L1 1- RN :      36 TERMS
L3          36 SEA FILE=REGISTRY ABB=ON PLU=ON L2
L4          9 SEA FILE=REGISTRY ABB=ON PLU=ON (103955-77-7/B1 OR 144-68-3/B
               I OR 152203-57-1/B1 OR 465-42-9/B1 OR 472-70-8/B1 OR 60497-64-5
               /B1 OR 64-17-5/B1 OR 7235-40-7/B1 OR 83-44-3/B1) AND L3
L5          8 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT ETHANOL
L6          21783 SEA FILE=HCPLUS ABB=ON PLU=ON L5
L7          21003 SEA FILE=HCPLUS ABB=ON PLU=ON CAPSANTHIN OR CAPSOLUTEIN OR
               CUCURBITAXANTHIN? OR ?ZEAXANTHIN? OR BETA (W) CAROTENE OR
               BETACAROTENE OR PROVATEN?
L8          4892 SEA FILE=HCPLUS ABB=ON PLU=ON ?CRYPTOXANTH? OR CARICAXANTHIN
               OR KRYPTOXANTHIN OR XANTHROPHYLL? OR ANCHOVYXANTHIN OR
               ZEAXANTH?
L9          194 SEA FILE=HCPLUS ABB=ON PLU=ON DIHYDROXY (1W) BETA (1W)
               (CHOLANIC OR CHOLANOIC OR CHOLAN (1W) OIC) (1W) ACID?
L10         4467 SEA FILE=HCPLUS ABB=ON PLU=ON (DIHYDROXYCHOLANIC OR
               DIHYDROXYCHOLANOIC OR DEOXYCHOLIC OR DEOXY (1W) CHOLIC) (1W)
               ACID OR CHOLEREBIC
L11         4705 SEA FILE=HCPLUS ABB=ON PLU=ON CHOLEREBIC OR DEGALOL OR
               (DEOXYCHOL? OR DESOXYCHOLIC?) (1W) ACID? OR DROXOLAN# OR
               NSC8797 OR NSC (W) 8797
L12         1 SEA FILE=HCPLUS ABB=ON PLU=ON PYROCHOL OR SEPTOCHOL
L13         23958 SEA FILE=HCPLUS ABB=ON PLU=ON CAROTENOIDS/B1
L14         5174 SEA FILE=HCPLUS ABB=ON PLU=ON CAROTENOIDS/CT
L15         40709 SEA FILE=HCPLUS ABB=ON PLU=ON CAROTENES+OLD, NT/CT
L16         53457 SEA FILE=HCPLUS ABB=ON PLU=ON (L6 OR L7 OR L8 OR L9 OR L10
               OR L11 OR L12 OR L13 OR L14 OR L15)
L17         3650 SEA FILE=REGISTRY ABB=ON PLU=ON ESTERASE/CNS
L18         153913 SEA FILE=HCPLUS ABB=ON PLU=ON L17
L19         18 SEA FILE=HCPLUS ABB=ON PLU=ON (ESTERASE/CT OR "ESTERASE,
```

ACETYL"/CT OR "ESTERASE, ACETYL CHOLINE"/CT OR "ESTERASE, ARYL"/CT OR "ESTERASE, CARBOXYL"/CT OR "ESTERASE, CHOLESTEROL"/CT OR "ESTERASE, CHOLINE"/CT OR "ESTERASE, ORGANOPHOSPHATE"/CT OR "ESTERASE, PECTIN"/CT OR "ESTERASE, STEROID"/CT OR ESTERASES /CT OR "ESTERASES, 7-AMINOCEPHALOSPORANATE ACETYL-"/CT OR "ESTERASES, AMINO ACID"/CT OR "ESTERASES, CARBAMATE"/CT OR "ESTERASES, CARNITINE"/CT OR "ESTERASES, DOLANTIN"/CT OR "ESTERASES, HOMATROPINE"/CT OR "ESTERASES, O-ACYLTHIAMINE-HYDROLYZING"/CT OR "ESTERASES, SCOPOLAMINE"/CT OR "ESTERASES, SULFO-"/CT OR "ESTERASES, TRIPHOSPHOINOSITIDE"/CT OR "ESTERASES, TROPACOCAINE"/CT)

L20 18966 SEA FILE=HCAPLUS ABB=ON PLU=ON "NONSPECIFIC ESTERASE"+OLD,NT/CT

L21 159007 SEA FILE=HCAPLUS ABB=ON PLU=ON (L18 OR L19 OR L20)

L22 548 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND L21

L23 95 SEA FILE=HCAPLUS ABB=ON PLU=ON ("KANNER J"/AU OR "KANNER JAMES D"/AU OR "KANNER JOSEPH"/AU)

L24 18 SEA FILE=HCAPLUS ABB=ON PLU=ON ("GRANIT R"/AU OR "GRANIT RAGNAR"/AU)

L25 640 SEA FILE=HCAPLUS ABB=ON PLU=ON ("LEVY A"/AU OR "LEVY A A"/AU OR "LEVY A B"/AU OR "LEVY A C"/AU OR "LEVY A D"/AU OR "LEVY A G"/AU OR "LEVY A GOODMAN"/AU OR "LEVY A H"/AU OR "LEVY A HOYT"/AU OR "LEVY A J"/AU OR "LEVY A L"/AU OR "LEVY A M"/AU OR "LEVY A MICHAEL"/AU OR "LEVY A MICHEL"/AU OR "LEVY A P"/AU OR "LEVY A S"/AU OR "LEVY A V"/AU OR "LEVY A W"/AU)

L26 13 SEA FILE=HCAPLUS ABB=ON PLU=ON ("LEVY ARIEH"/AU OR "LEVY ARIEL"/AU)

L27 758 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR L24 OR L25 OR L26)

L28 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND L22

L29 546 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L28

L30 427 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND (PY<=2001 OR AY<=2001 OR PRY<=2001)

L31 23275 SEA FILE=HCAPLUS ABB=ON PLU=ON (EMULSIFIER/CT OR "EMULSIFIER L"/CT OR EMULSIFIERS/CT OR EMULSIFYING/CT OR "EMULSIFYING ACTIVITY FOOD PROPERTIES"/CT OR "EMULSIFYING AGENT"/CT OR "EMULSIFYING AGENTS"/CT OR "EMULSIFYING AGENTS (L) ANIONIC"/CT OR "EMULSIFYING AGENTS (L) CATIONIC"/CT OR "EMULSIFYING AGENTS (L) HYDROPHILIC"/CT OR "EMULSIFYING AGENTS (L) NONIONIC"/CT OR "EMULSIFYING AGENTS (L) REACTIVE"/CT OR "EMULSIFYING CAPACITY FOOD PROPERTIES"/CT OR "EMULSIFYING FOOD PROPERTIES"/CT OR EMULSIN/CT OR "EMULSIN MS"/CT OR EMULSINS/CT OR EMULSION/CT)

L32 23272 SEA FILE=HCAPLUS ABB=ON PLU=ON "EMULSIFYING AGENTS"/CT

L33 283694 SEA FILE=HCAPLUS ABB=ON PLU=ON EMULS?

L34 34 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND (L31 OR L32 OR L33)

L36 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND FOOD/SC,SX

L37 3 SEA FILE=HCAPLUS ABB=ON PLU=ON ("132:121794"/AN OR "133:149619"/AN OR "136:280782"/AN OR "2000:202055"/AN OR "2000:85025"/AN OR "2002:290946"/AN) AND L36

L38 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 OR L28

=> d ibib abs hitstr 138 tot

L38 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:701604 HCAPLUS
 DOCUMENT NUMBER: 141:205763
 TITLE: Increasing bioavailability of carotenoids
 INVENTOR(S): Kanner, Joseph; Granit, Rina; Levy,
 Arie

PATENT ASSIGNEE(S) : Agricultural Research Organization, the Volcani Center, Israel
 SOURCE: U.S. Pat. Appl. Publ., 55 pp., Cont.-in-part of Appl.
 No. PCT/IL02/00398.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

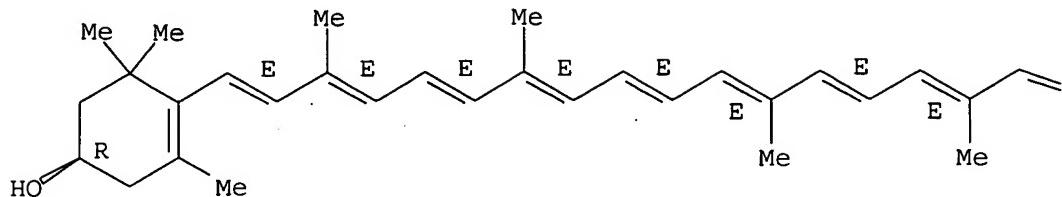
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004166199	A1	20040826	US 2003-661606	20030915
US 2002177181	A1	20021128	US 2001-915527	20010727
WO 2002094982	A2	20021128	WO 2002-IL398	20020521
WO 2002094982	A3	20030530		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005026739	A2	20050324	WO 2004-IL839	20040913
WO 2005026739	A3	20050929		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:	US 2001-292953P	P 20010524
	US 2001-915527	B1 20010727
	WO 2002-IL398	A2 20020521
	US 2003-661606	A 20030915

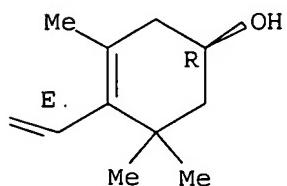
- AB A method of increasing a fraction of free carotenoids in a source of carotenoids in which at least some of the carotenoids are fatty acid esterified carotenoids is disclosed. The method is effected by contacting the source of carotenoids with an effective amount of an esterase under conditions effective in deesterifying the fatty acid esterified carotenoids, thereby increasing the fraction of free carotenoids in the source of carotenoids.
- IT 144-68-3P, Zeaxanthin 465-42-9P,
 Capsanthin 103955-77-7P, Capsolutein
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation) (increasing bioavailability of carotenoids)
- RN 144-68-3 HCAPLUS
 CN β,β-Carotene-3,3'-diol, (3R,3'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



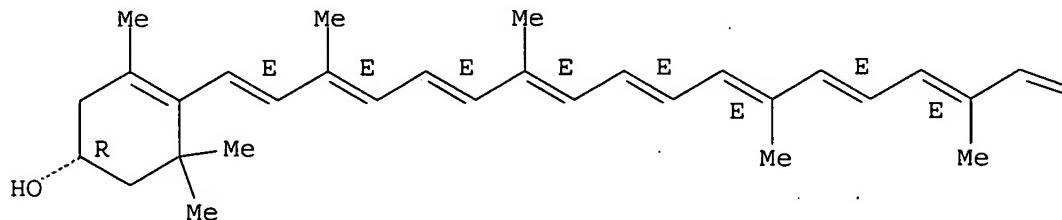
PAGE 1-B



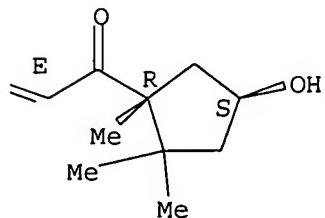
RN 465-42-9 HCPLUS
CN β,κ -Carotene-6'-one, 3,3'-dihydroxy-, (3R,3'S,5'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



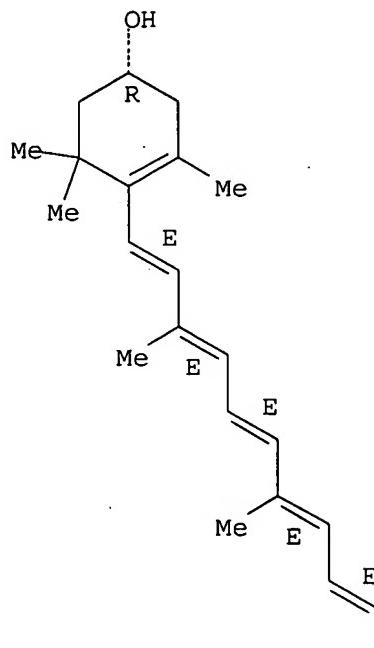
PAGE 1-B



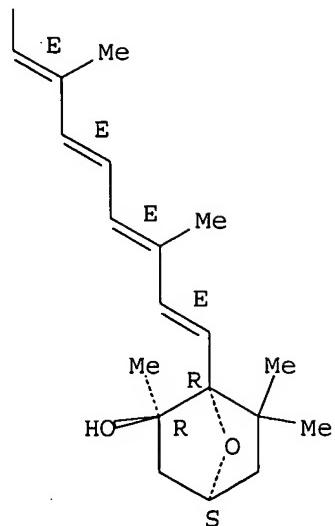
RN 103955-77-7 HCPLUS
CN β,β -Carotene, 3,6-epoxy-5,6-dihydro-3',5-dihydroxy-, (3S,3'R,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

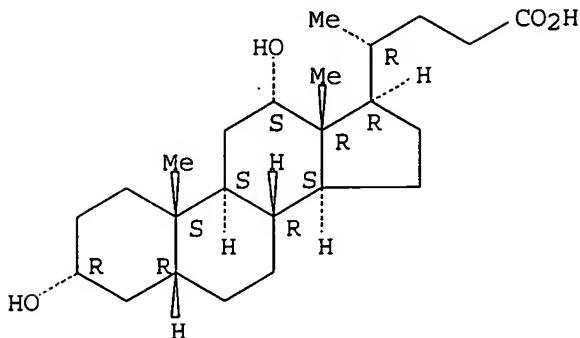


IT 83-44-3, Deoxycholic acid 9001-92-7,
Proteinase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(increasing bioavailability of carotenoids)

RN 83-44-3 HCPLUS

CN Cholan-24-oic acid, 3,12-dihydroxy-, (3 α ,5 β ,12 α) - (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



RN 9001-92-7 HCPLUS
 CN Proteinase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9001-62-1, Lipase

RL: CAT (Catalyst use); USES (Uses)
 (increasing bioavailability of carotenoids)

RN 9001-62-1 HCPLUS

CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 2 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:906438 HCPLUS

DOCUMENT NUMBER: 137:369127

TITLE: Increasing bioavailability of carotenoids

INVENTOR(S): Kanner, Joseph; Granit, Rina; Levy, Arie

PATENT ASSIGNEE(S): Agricultural Research Organization, The Volcani Center, Israel

SOURCE: PCT Int. Appl., 83 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002094982	A2	20021128	WO 2002-IL398	20020521
WO 2002094982	A3	20030530		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,			

GN, GQ, GW, ML, MR, NE, SN, TD, TG
 US 2002177181 A1 20021128 US 2001-915527 20010727
 CA 2448125 AA 20021128 CA 2002-2448125 20020521
 EP 1409454 A2 20040421 EP 2002-735925 20020521
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2004532635 T2 20041028 JP 2002-592445 20020521
 US 2004166199 A1 20040826 US 2003-661606 20030915
 US 2004175785 A1 20040909 US 2004-477520 20040412
 PRIORITY APPLN. INFO.: US 2001-292953P P 20010524
 US 2001-915527 A 20010727
 WO 2002-IL398 W 20020521

AB A method of increasing a fraction of free carotenoids in a source of carotenoids in which at least some of the carotenoids are fatty acid-esterified carotenoids is disclosed. The method is effected by contacting the source of carotenoids with an effective amount of an esterase under conditions effective in deesterifying the fatty acid-esterified carotenoids, thereby increasing the fraction of free carotenoids in the source of carotenoids.

IT 9001-62-1, Lipase

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (Amano 6 and Amano 30; esterase for increasing bioavailability of esterified carotenoids)

RN 9001-62-1 HCPLUS

CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 83-44-3, Deoxycholic acid 9013-79-0,

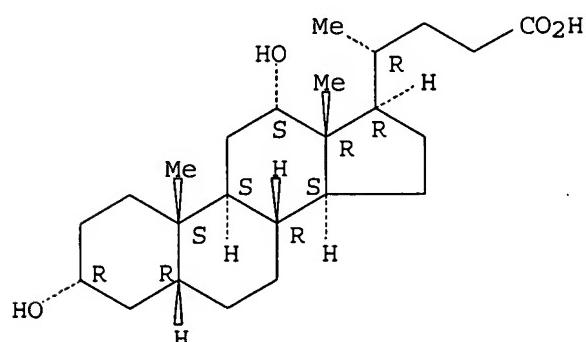
Esterase 9016-18-6, Carboxy esterase 9025-98-3, Pectin esterase

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (esterase for increasing bioavailability of esterified carotenoids)

RN 83-44-3 HCPLUS

CN Cholan-24-oic acid, 3,12-dihydroxy-, (3 α ,5 β ,12 α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 9013-79-0 HCPLUS

CN Esterase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9016-18-6 HCPLUS

CN Esterase, carboxyl (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9025-98-3 HCPLUS

CN Esterase, pectin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 126-29-4P, Violaxanthin 144-68-3P, Zeaxanthin

465-42-9P, Capsanthin 472-70-8P, β -Cryptoxanthin 7235-40-7P, β -

Carotene 60497-64-5P 103955-77-7P,

Capsolutein 152203-57-1P, cis-Capsanthin

RL: FFD (Food or feed use); PUR (Purification or recovery); BIOL

(Biological study); PREP (Preparation); USES (Uses)

(esterase for increasing bioavailability of esterified
carotenoids)

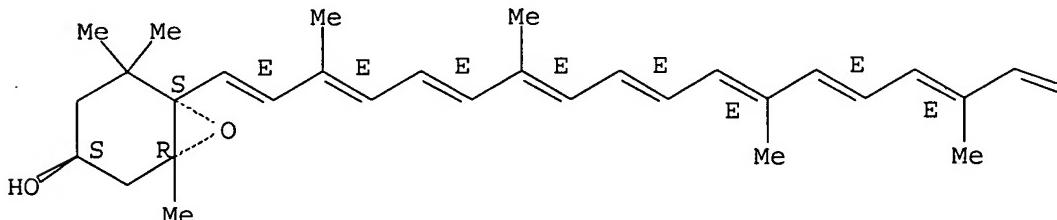
RN 126-29-4 HCPLUS

CN β,β -Carotene-3,3'-diol, 5,6:5',6'-diepoxy-5,5',6,6'-tetrahydro-,
(3S,3'S,5R,5'R,6S,6'S)- (9CI) (CA INDEX NAME)

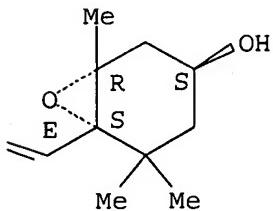
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



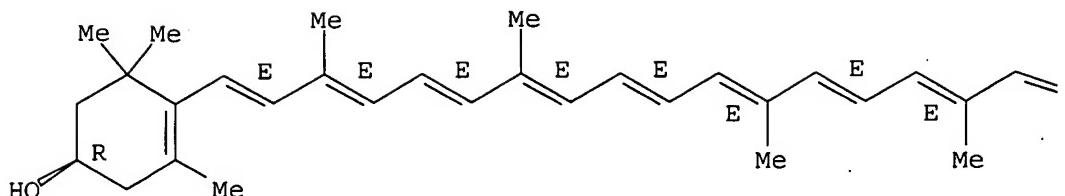
RN 144-68-3 HCPLUS

CN β,β -Carotene-3,3'-diol, (3R,3'R)- (9CI) (CA INDEX NAME)

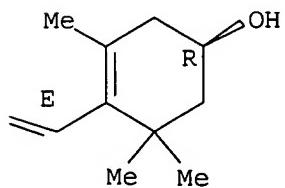
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



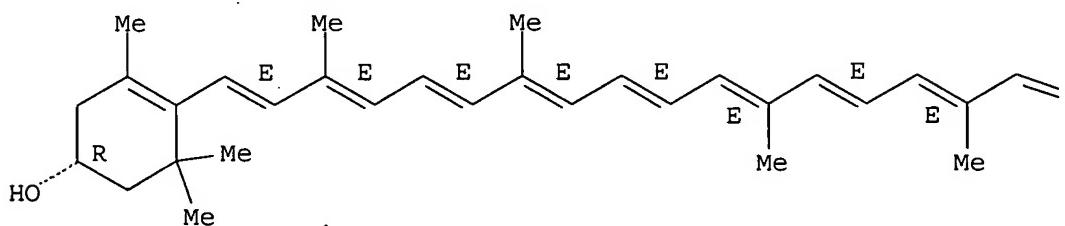
RN 465-42-9 HCAPLUS

CN β,κ -Carotene-6'-one, 3,3'-dihydroxy-, (3R,3'S,5'R) - (9CI) (CA INDEX NAME)

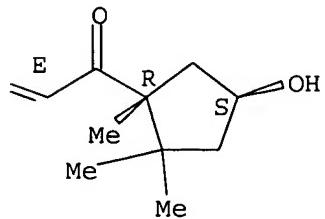
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



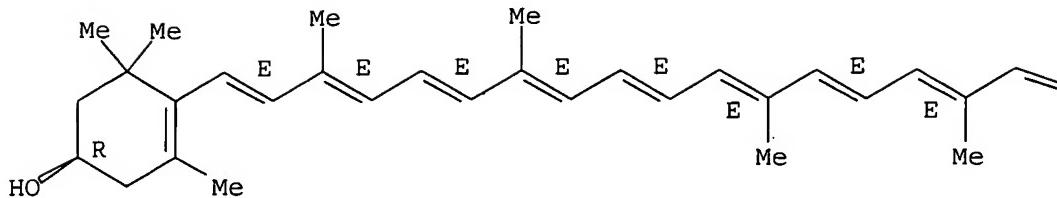
RN 472-70-8 HCAPLUS

CN β,β -Carotene-3-ol, (3R) - (9CI) (CA INDEX NAME)

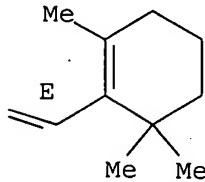
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



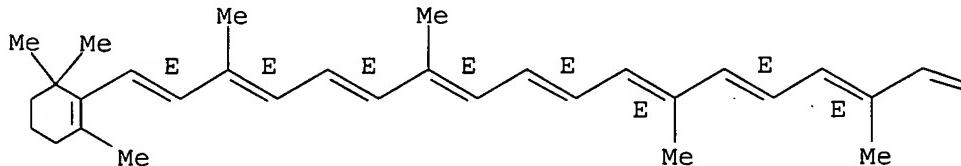
PAGE 1-B



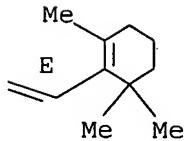
RN 7235-40-7 HCPLUS
 CN β,β -Carotene (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



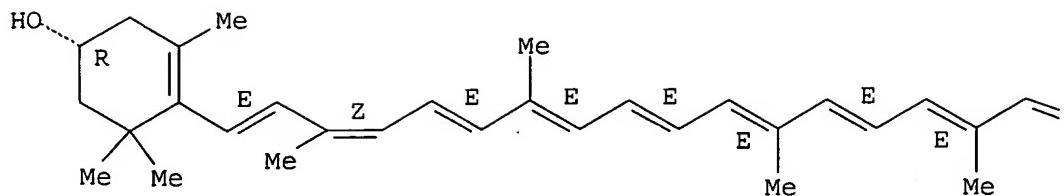
PAGE 1-B



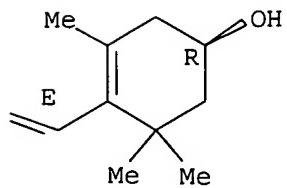
RN 60497-64-5 HCPLUS
 CN β,β -Carotene-3,3'-diol, (3R,3'R,9-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



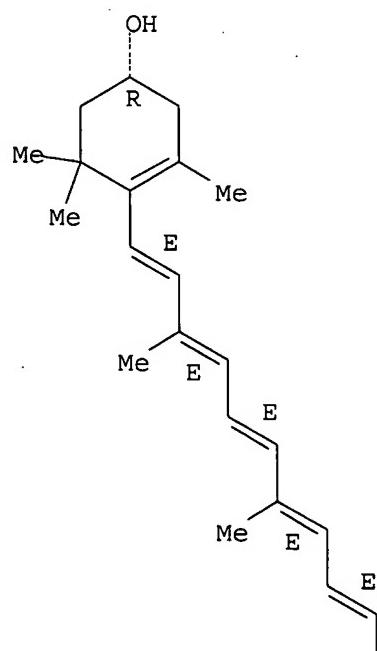
RN 103955-77-7 HCAPLUS

CN β,β -Carotene, 3,6-epoxy-5,6-dihydro-3',5-dihydroxy-,
(3S,3'R,5R,6R)- (9CI) (CA INDEX NAME)

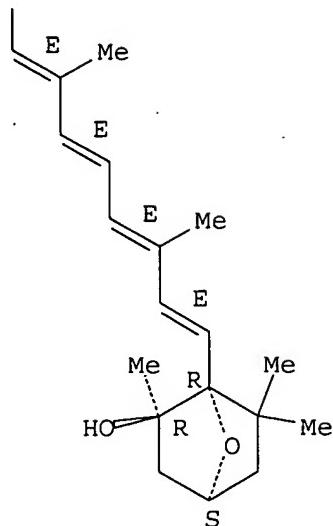
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



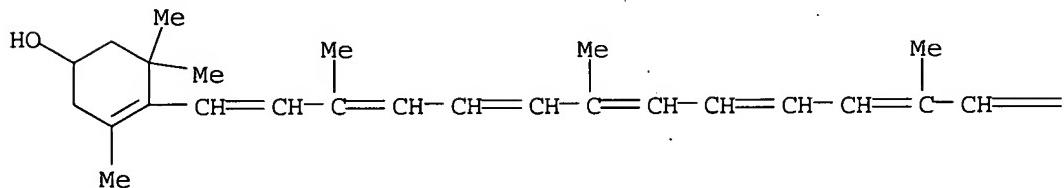
PAGE 2-A



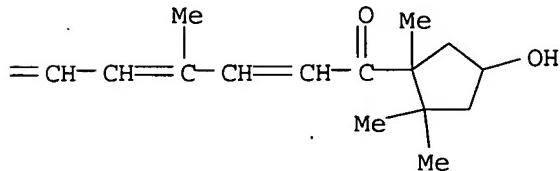
RN 152203-57-1 HCAPLUS

CN β, κ -Caroten-6'-one, 3,3'-dihydroxy-, (3R,3'S,5'R,cis)- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 9001-92-7, Proteinase

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(protease; esterase for increasing bioavailability of esterified
carotenoids)

RN 9001-92-7 HCAPLUS

CN Proteinase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:290946 HCAPLUS
 DOCUMENT NUMBER: 136:280782
 TITLE: Preparation method of red pigment from
capsanthin and formulations using the pigment
 Chen, Yong
 Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
 CODEN: CNXKEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1297965	A	20010606	CN 2000-132195	20001220 <-- CN 2000-132195 20001220 <--

PRIORITY APPLN. INFO.: AB The preparation process comprises extracting **capsanthin** powder with > 80% ethanol for 1-3 h and hexane for 1-2 h sequentially to obtain a **capsanthin** oil resin, extracting the **capsanthin** oil resin with acetone and hexane in sequence, condensing the extract, steam distilling, drying to obtain a crude pigment product, treating the crude product with enzyme (lipase or pectase) to remove impurity, and purifying by column chromatog. (Al2O3 or silica gel as adsorbent and chloroform as eluant) to obtain the product. Antioxidant (dilauryl thiodipropionate, tert-Bu p-hydroxy toluene or their mixture) may be added to the purified **capsanthin** pigment. The **capsanthin** pigment can be made into microcapsule powder by spray-drying process with glucose stearate, monoglyceride stearate, Span-60, Tween-60 or their mixture as emulsifying agent and agar, acacia, gelatin, CM-cellulose, CM-cellulose Na or dextrin as excipient.

IT 9001-62-1, Lipase 9025-98-3, Pectase
 RL: CAT (Catalyst use); USES (Uses)
 (preparation method of red pigment from **capsanthin** and
 formulations using the pigment)

RN 9001-62-1 HCAPLUS
 CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9025-98-3 HCAPLUS
 CN Esterase, pectin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:202055 HCAPLUS
 DOCUMENT NUMBER: 133:149619
 TITLE: Effect of alkali saponification, enzymatic hydrolysis
 and storage time on the total carotenoid concentration
 of Costa Rican crude palm oil
 AUTHOR(S): Fernandez R., Xinia E.; Shier, Nathan W.; Watkins,
 Bruce A.
 CORPORATE SOURCE: Nutrition Science Division, Indiana University,
 Bloomington, IN, 47405-7109, USA
 SOURCE: Journal of Food Composition and Analysis (2000
), 13(2), 179-187
 CODEN: JFCAEE; ISSN: 0889-1575
 PUBLISHER: Academic Press
 DOCUMENT TYPE: Journal

LANGUAGE: English

AB Carotenoids from 10 portions of the same sample of crude palm oil were extracted using either enzymic hydrolysis (Lipase from Candida rugosa) or alkali to determine which method would preserve the greatest level of carotenoids. Also, after each extraction the effect of storage time on carotenoid levels was tested for the exts. obtained right after extraction, at 24 and 48 h after extraction. The carotenoid concentration was estimated using spectrophotometry. Findings showed consistently greater concns. of carotenoids and a slight decrease over time of 3.5% when enzymic hydrolysis was performed. This slight decrease is considered to be tech. unimportant since these samples exhibited greater concns. and the change was observed at time 0 but not after 24 and 48 h. Alkali-treated samples stayed stable over time but exhibited lower concns. of carotenoids.

Alkali saponification required a longer time to perform and produced greater losses because of emulsion and soap formation. The difference in concentration by method was not significant as well as the difference in the recovery of an added standard; however, enzymic hydrolysis is still considered tech. and economically advisable as a routine method for the extraction of palm oil carotenoids. (c) 2000 Academic Press.

IT 9001-62-1, Lipase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (effect of alkali saponification, enzymic hydrolysis and storage time on carotenoid concentration of palm oil)

RN 9001-62-1 HCAPLUS
 CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:85025 HCAPLUS
 DOCUMENT NUMBER: 132:121794
 TITLE: Foodstuffs prepared from food materials and enzymes
 INVENTOR(S): Soe, Jorn Borch
 PATENT ASSIGNEE(S): Danisco A/s, Den.
 SOURCE: PCT Int. Appl., 47 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000005396	A1	20000203	WO 1999-IB1354	19990720 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9947942	A1	20000214	AU 1999-47942	19990720 <--
AU 752215	B2	20020912		
EP 1098988	A1	20010516	EP 1999-931410	19990720 <--

EP 1098988	B1	20030115		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 231186	E	20030215	AT 1999-931410	19990720 <--
ES 2188190	T3	20030616	ES 1999-931410	19990720 <--
US 2002009518	A1	20020124	US 2000-750990	20001228 <--
US 2004091574	A1	20040513	US 2003-409391	20030408 <--
PRIORITY APPLN. INFO.:				
		GB 1998-15905	A 19980721 <--	
		GB 1998-24758	A 19981111 <--	
		WO 1999-IB1354	W 19990720 <--	
		US 2000-750990	A3 20001228 <--	

AB The invention provides the use of a conversion agent, e.g. an enzyme, to prepare a good stuff comprising at least one functional ingredient from a food material, wherein the at least one functional ingredient has been generated from at least one constituent of the food material by the conversion agent. A fat blend containing soybean oil was treated with lipase obtained from *Aspergillus tubingensis*, dispersed in glycerol, for 12 h at 50°. The treated fat blend was then combined with water, skimmed milk powder, salt, ferment flavoring, soya lecithin, β - carotene, fat blend and butter flavoring to make a margarine.

IT 9001-62-1, Lipase PS 9013-79-0, Esterase
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (foodstuffs prepared by enzymic reactions of food materials)
 RN 9001-62-1 HCAPLUS
 CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9013-79-0 HCAPLUS
 CN Esterase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***